REMARKS

Claims 1-3, 5, 6 and 12 have been rejected under 35 U.S.C. §102(b) as anticipated by, or alternatively under 35 U.S.C. §103(a) as obvious over, Rock et al (European patent document EP 1 113 516), while Claim 4 has been rejected as obvious over Rock et al in view of Edlund (U.S. Patent No. 6,495,277), and Claims 7 and 9 have been rejected as obvious over Rock et al in view of Amrhein (Published U.S. Patent Application No. 2003/0124399). Further, Claims 8, 10 and 11 have been rejected as obvious over Rock et al in view of Bloomfield (U.S. Patent No. 3,976,507) and Claims 13-15 have been rejected as obvious of Rock et al in view of Fuller et al (U.S. Patent No. 6,068,941). However, for the reasons set forth hereinafter, Applicants respectfully submit that all claims of record in this application distinguish over the cited references, and are allowable.

As an initial matter, Applicants note once again that the Rock et al reference (European patent specification EP 1 113 516) does not constitute prior art with respect to the present application. Accordingly, the rejection of all claims in this application based on Rock et al is respectfully traversed.

As indicated in Applicants' comments which accompanied the amendment dated December 22, 2009, the priority date for the present application is February 6, 2004, which precedes the grant date of the Rock et al patent, which is April 28, 2004. Accordingly, the Rock et al patent cannot constitute prior art

with respect to the present application under either of 35 U.S.C. §102(a) or 102(b). Foreign priority for the present application was properly claimed on page 3 of the Application Data Sheet and certified copies of the appropriate priority documents have been made of record with the U.S. Patent and Trademark Office. Accordingly, Applicants will perfect the claim of priority by submitting a certified translation of the foreign priority document.

In regard to the foregoing observations concerning the lack of prior art status of the Rock et al patent, the outstanding Office Action notes that the publication date of the Rock et al application is April 7, 2001. In addition, the Office Action indicates that the effective U.S. filing date of the present application is May 11, 2004. Applicants respectfully submit, however, that as noted previously, the effective U.S. filing date of this application is February 6, 2004, based on German Patent Application No. 10 2004 005 935.7, which is cited in the Application Data Sheet. The latter date precedes the grant date of European patent specification EP 1 113 516, which is April 28, 2004.

With regard to the publication date of April 7, 2001 for the Rock et al application, Applicants note that the published European patent application (which is different from the European patent specification published on April 28, 2004) has not been cited or relied on in the present application, and its disclosure is not of record. Moreover, there is no evidence contained in the record of the

present application to establish that the published Rock et al application contains the same disclosure. If it is intended to rely on the Rock et al published European application (and its publication date of April 7, 2001), then that document must be made of record, properly cited on form PO 892, and a new ground of rejection entered based thereon.

As noted in MPEP 2126.01, a foreign patent is available as a reference on the date that the patent becomes enforceable: that is, the date the Sovereign formally bestows patent rights on the application. Moreover, as noted in MPEP §901.05 (page 900-11), the date on which a European patent specification becomes available as a reference is the date it is published. Since the publication date of the Rock et al European patent specification is April 28, 2004, which is after the effective filing date of the present application (February 6, 2004), the cited European patent specification to Rock et al does not constitute a reference against the present application.

While further discussion of the cited Rock et al European patent specification is therefore unnecessary, in order to deal with the substantive issues which might be raised by citation to the published application and a new ground of rejection, and in order to advance the prosecution of this application, Applicants note the following points with regard to the disclosure of the Rock et al patent.

The present invention is directed to a method for cold starting a fuel cell system having a heating device for heating a cooling agent that is circulated to a fuel cell stack by a coolant pump. In particular, the method according to the present invention provides that during a start-up period, when the fuel cell stack is at an ambient temperature that is below the temperature which it is capable of sustaining a normal operation, the fuel cell stack is operated with an output power "that is adequate to operate the heating device and the coolant pump". Moreover, in the invention as defined in Claim 1, the latter output power provided by the fuel cell stack is used "to operate the heating device for heating the cooling agent, as well as the coolant pump, so that the cooling agent, heated in this manner, is circulated to the fuel cell stack". When the fuel cell stack has reached a preset temperature that is higher than the original temperature, the heating device is shut off.

The Rock et al patent does not teach or suggest such a method of operation. In particular, it contains no disclosure which suggests that during the startup time, the fuel cell stack be operated at an output power that is adequate to operate the heating device and the cooling pump, or that the output power provided by the fuel cell stack be used to operate the heating device for heating the cooling agent, as well as the coolant pump.

Rather, while the Rock et al patent addresses the same problem resolved by the present application, it deals with it in an entirely different manner. That is, as discussed in the specification at paragraph [0009], during an initial operating phase of the fuel cell system, at which its temperature may be at -25°C or lower (Paragraph [0016], lines 5-6) in Rock et al, the membrane electrode assembly is "thawed out by locally heating it using heat generated by the exothermal chemical reaction between H2 and O2 on the anode and/or cathode catalytst", in order to raise the MEA's temperature to a second temperature level which enhances the rate of the overall electrochemical reaction occurring at the membrane electrode assembly. (Paragraph [0009], Column 3, lines 14-16.) The latter exothermal chemical reaction is facilitated by "introducing a sufficient quantity of H2 into the O2-rich gas, and/or a sufficient quantity of O2 into the H2-rich gas to exothermally chemically react the H2 with the O2, and thereby assist in heating the MEA up to a second temperature where current can be drawn from the fuel cell". Thereafter, as the fuel cell is operated, it is heated by both the exothermal chemical reaction (which is continued until the system reaches approximately 0°C) as well as the internal heating of the fuel cell due to the heat generated by its own operation (that is, "internal IR heating"). Finally, after the system reaches the latter temperature, the chemical reaction of H2 and O2 in the cathode or anode chambers is discontinued, and the fuel cell continues

to heat naturally until it reaches its normal operating temperature. (See Paragraph [0009], Column 3, lines 8-32.)

Item 1 on page 2 of the Office Action indicates that the Rock et al patent teaches that high temperatures can be reached by heating a fuel cell stack by electrical current drawn from the cell to supply additional heating to heating devices, referring in particular to "IR heating". Applicants respectfully submit, however, that the disclosure in Rock et al does not suggest that the current which is drawn from this fuel cell be used "to operate [a] heating device for heating the cooling agent, as well as the coolant pump". Rather, as is known to those skilled in the art, the term "IR heating" refers to the internal resistive heating which is a normal byproduct of the operation of the fuel cell, as a result of drawing power from it and the associated current that flows through it. See, for example, Column 2, lines 28-30. The reference to such internal heat generation, however, in no way implies that the power output from the fuel cell stack itself is used to operate auxiliary devices, such as the heating device and the coolant pump, as recited in Claim 1.

Item 1 of the Office Action notes in this regard that Rock et al discloses the use of a combustor to heat a coolant which circulates through the stack 8. While this is so (paragraph [0016], lines 27-30), Rock et al contains no suggestion that power drawn from the operation of the fuel cell at a reduced level be used to

operate a heating device or a coolant pump, as recited in Claim 1. Thus, in this respect, the Rock et al does not differ from the background prior art discussed in paragraphs [0003] and [0004] of the present application, in which a large battery is used to operate the necessary auxiliary equipment in order to accomplish the heating of a fuel cell during its initial operation from a temperature that is below freezing.

Finally, Applicants note that the Office Action at page 6 indicates that Rock et al teaches using only electric current drawn from the fuel cell stack to operate the fuel cell during a startup phase, and that coolant circulation during the startup must be powered by a device, such as a coolant pump. From this, the Office Action draws the further conclusion that operating the coolant pump by the only power source drawn from the fuel cell stack is either taught or expected absent evidence to the contrary.

In response to the latter proposition, Applicants draw attention to the following two points: First, as a factual matter, there is nothing in Rock et al to support the conclusion that the power drawn from the fuel cell is used during startup to drive a coolant pump, or other auxiliary devices for heating a fuel cell. The proposition that there may be no evidence to the contrary falls short of an affirmative disclosure of this feature, such as would anticipate or render obvious the present invention, under 35 U.S.C. §102 or §103.

To the extent that the discussion at page 6 of the Office Action is intended to rely on the principle of inherency, Applicants respectfully submit that that principle does not apply in the present case. That is, as noted in MPEP §2112, "the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic". Moreover, the MPEP also refers to longstanding precedent which holds that, "to establish inherency', the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances and is not sufficient'". *In re Robertson*, 169 F.3d 743, 749, 49 U.S.P.Q. 2d 1949, 1950-51 (Fed Cir 1999) (emphasis added).

In the present instance, while it is of course conceivable that the Rock et al patent could have disclosed using the power drawn from the fuel cell itself in order to operate the external heating device and the cooling pump, it contains no such disclosure. Moreover, it is readily apparent that other possibilities exist for driving the latter components. Indeed, the specification of the present application specifically notes the possibility of driving such components by means of a battery, which is the technique disclosed in the prior art discussed in this specification, and which does not differ from the disclosure in Rock et al.

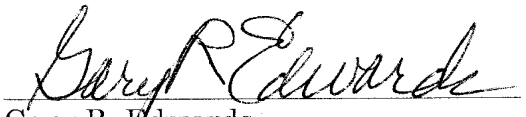
The Edlund patent has been cited only in respect of Claim 4, as teaching controlling the amount of power drawn from a fuel cell stack to prevent damaging it during a startup mode. In addition, the Amrhein patent application is cited in respect of Claims 7 and 9 as teaching the use of residual hydrogen from the fuel cell unit to operate a burner, while Bloomfield has been cited in respect of Claims 8, 10 and 11 as teaching the use of a compressor to supply air to both a fuel cell stack and a burner, and the Fuller patent has been cited in respect of Claims 13-15, as teaching the use of a battery as an auxiliary power source to operate an air blower and a water pump. Applicants respectfully submit, therefore, that none of the latter references teaches or suggests the features of the present invention which are missing in Rock et al, as discussed previously.

In light of the foregoing remarks, this application should be in consideration for allowance, and early passage of this case to issue is respectfully requested. If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and

please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323, Docket No. 102063.56866US.

Respectfully submitted,



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